

WHAT IS CLAIMED IS:

1. A method of producing a metal mesoporphyrin halide comprising:

isolating a mesoporphyrin formate; and
converting the mesoporphyrin formate to a metal mesoporphyrin halide.

2. The method of claim 1, wherein the mesoporphyrin formate is converted directly to a metal mesoporphyrin halide.

3. The method of claim 1, wherein the mesoporphyrin formate is first converted to mesoporphyrin dihydrochloride and the mesoporphyrin dihydrochloride is converted to the metal mesoporphyrin halide.

4. The method of claim 3, wherein the mesoporphyrin dihydrochloride is reacted with insert metals to form the metal mesoporphyrin halide.

5. The method of claim 3, further comprising purifying the mesoporphyrin formate in the presence of a metal scavenger.

6. The method of claim 5, wherein the metal scavenger includes Si-thiol.

7. The method of claim 4, further comprising catalytically hydrogenating hemin in the presence of an acid to form the mesoporphyrin formate.

8. The method of claim 7, wherein the step of catalytically hydrogenating the hemin occurs in two steps.

9. The method of claim 8, further comprising heating a mixture of hemin and a hydrogenation catalyst under pressure at a first temperature for a first period of time and subjecting the mixture to a second temperature under pressure for a second period of time.

10. The method of claim 9, wherein the first temperature is higher than the second temperature.

11. The method of claim 1, wherein metal mesoporphyrin halide is a tin mesoporphyrin halide.

12. The process of claim 10, further comprising:

a) subjecting a reaction mixture of hemin and a hydrogenation catalyst in an acid to hydrogen pressure of about 30-65 psi and then raising the temperature to about 85-95° C and maintaining the temperature within that range for a period of about 1-3 hours;

b) subjecting the reaction mixture to a further hydrogen pressure of about 30-65 psi at a temperature range of about 45-50° C for a period of about 24-48 hours; and

c) recovering the formate salt of mesoporphyrin IX from the reaction mixture by precipitation of the mixture with a solvent.

13. The process of claim 7, wherein the acid is formic acid.

14. The process of claim 12, wherein the solvent is an ether.

15. The process of claim 14, wherein the solvent is methyl tert-butyl ether.

16. The process of claim 15, wherein the hydrogenation catalyst is palladium on carbon.

17. The method of claim 1, wherein the quantity of metal mesoporphyrin halide formed by the process exceeds 0.1 kg.

18. The method of claim 1, further comprising purifying the metal mesoporphyrin halide, including:

a) dissolving the metal mesoporphyrin halide in an aqueous basic solution to obtain a dissolved metal mesoporphyrin halide;

b) treating said dissolved metal mesoporphyrin halide with charcoal to obtain a treated metal mesoporphyrin halide;

c) adding said treated metal mesoporphyrin halide to a first aqueous acid solution to obtain a precipitated metal mesoporphyrin halide;

d) triturating said precipitated metal mesoporphyrin halide in a second aqueous acid solution at elevated temperature to obtain a substantially pure metal mesoporphyrin halide; and

e) drying said substantially pure metal mesoporphyrin halide.

19. The process of claim 18, wherein the metal mesoporphyrin halide is tin (IV) mesoporphyrin IX chloride.

20. A method of producing stannosoporphin comprising:
isolating mesoporphyrin IX formate in substantially pure,
solid form; and
converting the mesoporphyrin IX formate to stannosoporphin.

21. The method of claim 20, further comprising converting
the mesoporphyrin IX formate to mesoporphyrin IX
dihydrochloride and reacting the mesoporphyrin dihydrochloride
with a tin insert metal to form stannosoporphin.

22. The method of claim 21, further comprising purifying
the mesoporphyrin formate with a metal scavenger.

23. The method of claim 22, wherein the metal scavenger
includes a silica bound metal scavenger.

24. The method of claim 23, further comprising purifying
the stannosoporphin to provide pharmaceutical grade
stannosoporphin.